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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/531,351

10/03/2005

Monique Royer

UF-T398XC1

6228

23557 7590 03/26/2008
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EXAMINER

ROBINSON, HOPE A

ART UNIT

PAPER NUMBER

1652

MAIL DATE

DELIVERY MODE

03/26/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/531,351	Applicant(s) ROYER ET AL.	
	Examiner HOPE A. ROBINSON	Art Unit 1652	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 February 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 51-61 is/are pending in the application.
- 4a) Of the above claim(s) 60 and 61 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 51 and 53-59 is/are rejected.
- 7) ☒ Claim(s) 52 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 April 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Application Status

1. Applicant's election without traverse of Group I (claims 31-34, 37 in part and 38-44) is acknowledged.
2. Claims 1-50 have been canceled. Claims 51-61 have been added. Claims 51-61 are pending. Claims 51-59 and are under examination. Claims 60-61 are withdrawn from further consideration pursuant to 37 CFR 1.12(b), as being drawn to a non-elected invention, there being no allowable generic or linking claim.
3. The Amendments filed on April 15, 2005 and February 7, 2008 have been received and entered.

Specification

4. The specification is objected to because of the following informalities:

The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed. The following is suggested:

"Biosynthetic genes and host cells for the synthesis of polyketide antibiotics and method of use".

Figures 3-7 and 10 disclose sequences, however, the Brief Description of the Drawing does not report the corresponding SEQ ID NO:.

Correction is required.

Sequence Compliance

5. This application contains sequence disclosures that are encompassed by the definitions for nucleotide and/or amino acid sequences set forth in 37 CFR 1.821(a)(1) and (a)(2). However, this application fails to comply with the requirements of 37 CFR 1.821 through 1.825; applicant's attention is directed to the final rule making notice published at 55 FR 18230 (May 1, 1990), and 1114 OG 29 (May 15, 1990). To be in compliance, applicant is required to identify all amino acid sequences of at least 4 L-amino acids and at least 10 nucleotides by a sequence identifier, i.e., "SEQ ID NO:". The specification discloses sequences that have not been identified by a sequence identifier, see for example, Figures 3-7 and 10. If these sequences have not been disclosed in the computer readable form of the sequence listing and the paper copy thereof, applicant must provide a computer readable form of the "Sequence Listing" including these sequences, a paper copy of the "Sequence Listing", as well as an amendment directing its entry into the specification, and a statement that the content of the paper and computer readable form copies are the same and, where applicable, include no new matter as required by 37 CFR 1.821(e) or 1.821(f) or 1.821(g) or 1.821(b) or 1.825(d). See the attached Notice to Comply with the sequence rules.

Information Disclosure Statement

6. The Information Disclosure Statement filed on April 25, 2007 has been received and entered. The references cited on the PTO-1449 Form have been considered by the examiner and a copy is attached to the instant Office action.

Claim Objection

7. Claims 52 and 55 are objected to because of the following informalities:

Claim 52 is objected to as depending from a rejected based claim.

For clarity and precision of claim language it is suggested that claim 55(j) is amended to read, "isolated polynucleotide sequence".

Correction is required.

Claim Rejections - 35 USC 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

8. Claim 54-59 is rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled

in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

The claimed invention is directed to an isolated transformed host cell and a composition of matter which encompasses nucleotide fragments which are not adequately described. Claim 54 for example recites "...combination of polynucleotide fragments of SEQ ID NOS:1-3", however, there is no indicia as to what the fragments will look like. No correlation is made between structure and function. Thus the claims encompass a genus of nucleotide fragments not adequately described. Therefore, the skilled artisan cannot envision the detailed chemical structure of the enormous amount of peptides encompassed in the claims. Thus, the specification fails to provide any additional representative species of the claimed genus to show that applicant was in possession of the claimed genus.

A representative number of species means that the species, which are adequately described are representative of the entire genus. The written description requirement for a claimed genus may be satisfied through sufficient description of a representative number of species by actual reduction to practice, disclosure of drawings, or by disclosure of relevant identifying characteristics, for example, structure or other physical and/or chemical properties, by functional characteristics coupled with a known or disclosed correlation between function and structure, or by a combination of such identifying characteristics, sufficient to show the applicant was in possession of the claimed genus.

Further, *Vas-Cath Inc. v. Mahurkar*, 935 F.2d 1555, 1563-64, 19 USPQ2d 1111, 1117 (Fed. Cir.1991), states that "applicant must convey with reasonable clarity to those skilled in the art that, as of the filing date sought, he or she was in *possession of the invention*. The invention

Art Unit: 1652

is, for purposes of the 'written description' inquiry, *whatever is now claimed*" (See page 1117).

The specification does not "clearly allow persons of ordinary skill in the art to recognize that [he or she] invented what is claimed" (See *Vas-Cath* at page 1116). The skilled artisan cannot envision the detailed chemical structure of the encompassed genus of polypeptides, and therefore, conception is not achieved until reduction to practice has occurred, regardless of the complexity or simplicity of the method of isolation. Adequate written description requires more than a mere statement that it is part of the invention and reference to a potential method of isolating it. The compound itself is required. *See Fiers v. Revel, 25 USPQ2d 1601 at 1606 (CAFC 1993)*.

Therefore, for all these reasons the specification lacks adequate written description, and one of skill in the art cannot reasonably conclude that the applicant had possession of the claimed invention at the time the instant application was filed.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

9. Claims 53 and 55 are rejected under 35 U.S.C. 112, second paragraph, as failing to set forth the subject matter, which applicant (s) regard as their invention.

Claim 53 lacks clear antecedent basis for "multiple genetic constructs" since claim 51 only recites "one or more genetic construct".

Claim 55 recites "complementary to the polynucleotide", however, the claim needs to be amended to recite "full complement" to endow function since said complement cannot encode the same protein.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

10. Claims 51 and 54-59 are rejected under 35 U.S.C. 102 (b) as being anticipated by Huang et al. (Gene, vol. 258, Issue 1-2, pages 193-199, 2000).

Huang et al. teach a structure that is identical to the instant SEQ ID NO:2 (as evidenced by the enclosed alignment). Huang et al. teach a gene (xabA) required for albicidin biosynthesis which encodes a 278 amino acid peptide. Huang et al. teach the use of a host cell such as *E. coli* for said production (see pages 193-196 of the reference). The reference describes the selection of transformants, thus the recited transformed host cell is anticipated (see page 194). Therefore, the limitations of the claims are met by the reference.

Art Unit: 1652

RESULT 2
 AF191324
 LOCUS AF191324 2989 bp DNA linear BCT 12-DEC-2
 DEFINITION *Xanthomonas albilineans* phosphopantetheinyl transferase gene, complete cds.
 ACCESSION AF191324
 VERSION AF191324.1 GI:11065901
 KEYWORDS .
 SOURCE *Xanthomonas albilineans*
 ORGANISM *Xanthomonas albilineans*
 Bacteria; Proteobacteria; Gammaproteobacteria; Xanthomonadales; Xanthomonadaceae; *Xanthomonas*.
 REFERENCE 1 (bases 1 to 2989)
 AUTHORS Huang, G., Zhang, L. and Birch, R.G.
 TITLE Albicidin antibiotic and phytotoxin biosynthesis in *Xanthomonas albilineans* requires a phosphopantetheinyl transferase gene
 JOURNAL Gene 258 (1-2), 193-199 (2000)
 PUBMED 11111057
 REFERENCE 2 (bases 1 to 2989)
 AUTHORS Huang, G., Zhang, L. and Birch, R.G.
 TITLE Direct Submission
 JOURNAL Submitted (01-OCT-1999) Department of Botany, University of Queensland, St. Lucia, Brisbane, Qld 4072, Australia
 FEATURES Location/Qualifiers
 source 1..2989
 /organism="*Xanthomonas albilineans*"
 /mol_type="genomic DNA"
 /strain="LS155"
 /db_xref="taxon:29447"
 CDS 1283..2119
 /function="involved in albicidin and phytoxin biosynthesis"
 /note="XabA; similar to EntD and to PPTases involved in antibiotic and fatty acid biosynthesis in bacteria; contains two conserved motifs of PPTases"
 /codon_start=1
 /transl_table=11
 /product="phosphopantetheinyl transferase"
 /protein_id="AAG28384.1"
 /db_xref="GI:11065901"

Art Unit: 1652

RESULT 2
AF191324

LOCUS AF191324 2989 bp DNA linear BCT 12-DEC-2

DEFINITION *Xanthomonas albilineans* phosphopantetheinyl transferase gene, complete cds.

ACCESSION AF191324

VERSION AF191324.1 GI:11065901

KEYWORDS .

SOURCE *Xanthomonas albilineans*

ORGANISM *Xanthomonas albilineans*
Bacteria; Proteobacteria; Gammaproteobacteria; Xanthomonadales; Xanthomonadaceae; *Xanthomonas*.

REFERENCE 1 (bases 1 to 2989)

AUTHORS Huang, G., Zhang, L. and Birch, R.G.

TITLE Albicidin antibiotic and phytotoxin biosynthesis in *Xanthomonas albilineans* requires a phosphopantetheinyl transferase gene

JOURNAL Gene 258 (1-2), 193-199 (2000)

PUBMED 11111057

REFERENCE 2 (bases 1 to 2989)

AUTHORS Huang, G., Zhang, L. and Birch, R.G.

TITLE Direct Submission

JOURNAL Submitted (01-OCT-1999) Department of Botany, University of Queensland, St. Lucia, Brisbane, Qld 4072, Australia

FEATURES Location/Qualifiers

source 1..2989
/organism="*Xanthomonas albilineans*"
/mol_type="genomic DNA"
/strain="LS155"
/db_xref="taxon:29447"

CDS 1283..2119
/function="involved in allicidin and phytoxin biosynthesis"
/note="XabA; similar to EntD and to PPTases involved in antibiotic and fatty acid biosynthesis in bacteria; contains two conserved motifs of PPTases"
/codon_start=1
/transl_table=11
/product="phosphopantetheinyl transferase"
/protein_id="AAG28384.1"
/db_xref="GI:11065901"

Art Unit: 1652

Query Match 100.0%; Score 2986; DB 14; Length 2986;
Best Local Similarity 100.0%; Pred. No. 0;
Matches 2986; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy	1	GAATTCAGCGATGTTGGCTGCGGTGGCCGGCACCGCCTTGCCCTGCGGCACCAGGTAGTT	60
Db	1	GAATTCAGCGATGTTGGCTGCGGTGGCCGGCACCGCCTTGCCCTGCGGCACCAGGTAGTT	60
Qy	61	GCGGCCGTAAACCGGCTTGACGTCGACCTTGTCGCCGAGGCCGCCAGGTTGGTGACTTT	120
Db	61	GCGGCCGTAAACCGGCTTGACGTCGACCTTGTCGCCGAGGCCGCCAGGTTGGTGACTTT	120
Qy	121	CTGCAGAAGAATCAATTGCATGGCGTTACTCCGTTATTTCGTTAGCGGCGGCATGCGGCCA	180
Db	121	CTGCAGAAGAATCAATTGCATGGCGTTACTCCGTTATTTCGTTAGCGGCGGCATGCGGCCA	180
Qy	181	CCGCAACGCGTGCTGTCCGAATAGGACGGGATTGGATTGCGCGGAGTCGGACATGTACCC	240
Db	181	CCGCAACGCGTGCTGTCCGAATAGGACGGGATTGGATTGCGCGGAGTCGGACATGTACCC	240
Qy	241	AACCGACACCCGGCGGTTGCTTCGGTCGCCGCACACGGGAATGCGCGCGCTTCCGAACGA	300
Db	241	AACCGACACCCGGCGGTTGCTTCGGTCGCCGCACACGGGAATGCGCGCGCTTCCGAACGA	300
Qy	301	CTCGGATCAAACGTCGTGGTTGTCCGTGTACGGGATCAGCGCCAGGAAACGCGCACGCTT	360
Db	301	CTCGGATCAAACGTCGTGGTTGTCCGTGTACGGGATCAGCGCCAGGAAACGCGCACGCTT	360
Qy	361	GACCGCCGTGGCCAACTGACGCTGGTACTTGGACTTGGTGCCGGTCACGCGGCTCGGCAC	420
Db	361	GACCGCCGTGGCCAACTGACGCTGGTACTTGGACTTGGTGCCGGTCACGCGGCTCGGCAC	420
Qy	421	GATCTTGCCGTTCTCGGTGAGGTACTGGCGCAGGGTGTGAGATCCTTGTAGTCGATCTC	480
Db	421	GATCTTGCCGTTCTCGGTGAGGTACTGGCGCAGGGTGTGAGATCCTTGTAGTCGATCTC	480
Qy	481	TTTGACGCCCTCGGCGGTGAATTTGCAGAACTTGCGACGACGGAAGAACTTGGACATGGA	540
Db	481	TTTGACGCCCTCGGCGGTGAATTTGCAGAACTTGCGACGACGGAAGAACTTGGACATGGA	540

Art Unit: 1652

|||||
481 TTTGACGCCCTCGGCGGTGAATTGACAGAACTTGCGACGACGGAAGAACTTGGACATGGA 540
y 541 CCTGCTCCTTAGGCGGCTTCGACGGCGTCGCCGTCGGCTTCGTTGGCGGCGGCGGACACA 600
b 541 CCTGCTCCTTAGGCGGCTTCGACGGCGTCGCCGTCGGCTTCGTTGGCGGCGGCGGACACA 600
y 601 TCGCCATCGTCGTCGTCGCGACGACGACGCTCACCACGGTCGGGCTTGTGCGCCCTTCTCG 660
b 601 TCGCCATCGTCGTCGTCGCGACGACGACGCTCACCACGGTCGGGCTTGTGCGCCCTTCTCG 660
y 661 TCCTTGCTCTTCATGATCAGCGACTGCTCGGTGTCGGCGCCATCGCGCTTGATCGCCAGG 720
b 661 TCCTTGCTCTTCATGATCAGCGACTGCTCGGTGTCGGCGCCATCGCGCTTGATCGCCAGG 720
y 721 TGACGCAGCACGGCGTCGTTGAAGCGGAAGCTCTCGACCAACTCGCTCAGCACGGCCTGA 780
b 721 TGACGCAGCACGGCGTCGTTGAAGCGGAAGCTCTCGACCAACTCGCTCAGCACGGCCTGA 780
y 781 TCCACTTCGATGTTGAGCATGACGTAGTGC GCCTTCACCAGATTCTGGATCGGGTAGGCC 840
b 781 TCCACTTCGATGTTGAGCATGACGTAGTGC GCCTTCACCAGATTCTGGATCGGGTAGGCC 840
y 841 AACTGTGCGCGGCCCCAGTCTTCCAGGCGGTGGATGGTGCCGCCGCCGTTCTCGACCAGC 900
b 841 AACTGTGCGCGGCCCCAGTCTTCCAGGCGGTGGATGGTGCCGCCGCCGTTCTCGACCAGC 900
y 901 GACTTGTAAGCGCTCGATCATGGCGGGGACCTGCTCGCTCTGGTCCGGATGGACCAGGAAC 960
b 901 GACTTGTAAGCGCTCGATCATGGCGGGGACCTGCTCGCTCTGGTCCGGATGGACCAGGAAC 960
y 961 ACGATTCGTAATGACGACTCATGTGGTTGTACCTTTTCGGATGTGGCCCAAGGGCCAGTC 1020
b 961 ACGATTCGTAATGACGACTCATGTGGTTGTACCTTTTCGGATGTGGCCCAAGGGCCAGTC 1020
y 1021 AGCCCCCGCAGGTGGCGGTGGAGCAAGGGTTCCCGCCCGAATAGGCGCAGGAAGCCAAT 1080
b 1021 AGCCCCCGCAGGTGGCGGTGGAGCAAGGGTTCCCGCCCGAATAGGCGCAGGAAGCCAAT 1080
y 1081 AAGTATGGCAGCGCCCTTGACCAATGACAAGCTCATGCACCCAGGACGCGCCGCTCTGCTC 1140
b 1081 AAGTATGGCAGCGCCCTTGACCAATGACAAGCTCATGCACCCAGGACGCGCCGCTCTGCTC 1140
y 1141 CGCGTCGTCCATCGCCATTGCGCCCCCTCCCGACCCCAAGCATCGACCAAAGGACCGAAT 1200

Art Unit: 1652

1201 GCGGCGGGTAGGCGCGACTCTGCGACACTAGCGCAATGTTATCGTCGACATTGACGCCCA 1260
|||||

Db 1201 GCGGCGGGTAGGCGCGACTCTGCGACACTAGCGCAATGTTATCGTCGACATTGACGCCCA 1260

Qy 1261 CAGCCCTCAGCGCAACGCAATGCCCAATGCCGTACCGATGCAGGGCGCGGGGACTCCC 1320
|||||

Db 1261 CAGCCCTCAGCGCAACGCAATGCCCAATGCCGTACCGATGCAGGGCGCGGGGACTCCC 1320

Qy 1321 GCAGCCGCAAGCGATGAACCCAGGGTTGCCGAGCGTCGGCGGCTTGAGCGCAGGCCAGCC 1380
|||||

Db 1321 GCAGCCGCAAGCGATGAACCCAGGGTTGCCGAGCGTCGGCGGCTTGAGCGCAGGCCAGCC 1380

Qy 1381 ATTGCAGTTGTCGTTAGCACCCGGAAGTGCAGGCAGCCGCGCGCAGTGCCACCGCCATCT 1440
|||||

Db 1381 ATTGCAGTTGTCGTTAGCACCCGGAAGTGCAGGCAGCCGCGCGCAGTGCCACCGCCATCT 1440

Qy 1441 GCTCGACGACGGCAGGCGCTTTACCTGCTGGCGTTCGATACCGCGCAATTCGACCCGGG 1500
|||||

Db 1441 GCTCGACGACGGCAGGCGCTTTACCTGCTGGCGTTCGATACCGCGCAATTCGACCCGGG 1500

Qy 1501 GGCTTTCGCGGCAATGGCAATCGCCCGCCCGACAGCATCGCCCGCAGCGTGCGCAAGCG 1560
|||||

Db 1501 GGCTTTCGCGGCAATGGCAATCGCCCGCCCGACAGCATCGCCCGCAGCGTGCGCAAGCG 1560

Qy 1561 TCAGGCCGAGTTCTGTTCGGCCGTCTGGCCGCGCGACTGGCGCTGCAAGAGGTGCTGGG 1620
|||||

Db 1561 TCAGGCCGAGTTCTGTTCGGCCGTCTGGCCGCGCGACTGGCGCTGCAAGAGGTGCTGGG 1620

Qy 1621 ACCTGCGCAAGCGCAGGCAGACATTGCAATCGGCGCGACGCGCGCCCTGCTGGCCTGC 1680
|||||

Db 1621 ACCTGCGCAAGCGCAGGCAGACATTGCAATCGGCGCGACGCGCGCCCTGCTGGCCTGC 1680

Qy 1681 CGGCAGCCTGGGCAGCATTTCCCATTTGCGAGGACTACGCGGCCGCCATCGCCATGGCGGC 1740
|||||

Db 1681 CGGCAGCCTGGGCAGCATTTCCCATTTGCGAGGACTACGCGGCCGCCATCGCCATGGCGGC 1740

Qy 1741 CGGCACCCGCCACGGCGTGGGCATCGATCTGGAACGACCAATCACACCCGCGGCGCGCGC 1800
|||||

Db 1741 CGGCACCCGCCACGGCGTGGGCATCGATCTGGAACGACCAATCACACCCGCGGCGCGCGC 1800

Qy 1801 GCGGTTGCTGAGCATCGCAATCGATGCCGACGAAGCCGCTCGTCTGGCAAAGGCGGCAGA 1860
|||||

Db 1801 GCGGTTGCTGAGCATCGCAATCGATGCCGACGAAGCCGCTCGTCTGGCAAAGGCGGCAGA 1860

Qy 1861 CGCGCAGTGGCCGCAAGACCTGCTGCTGACCGCACTATTTTCGGCCAAGGAAAGCCTGTT 1920

Art Unit: 1652

Qy	1921	CAAAGCCGCCTACAGCGCGGTTCGGACGCTACTTCGACTTCAGCGCGGCACGCCTGTGCGG	1980
Db	1921	CAAAGCCGCCTACAGCGCGGTTCGGACGCTACTTCGACTTCAGCGCGGCACGCCTGTGCGG	1980
Qy	1981	CATCGACCTGGCACGGCAATGCCTGCATCTGCGCCTGACCGAGACACTCTGCGCGCAATT	2040
Db	1981	CATCGACCTGGCACGGCAATGCCTGCATCTGCGCCTGACCGAGACACTCTGCGCGCAATT	2040
Qy	2041	CGTGGCCGGGCAAGTGTGCGAGGTTCGGCTTCGCGCGCCTACCACCGGACCTGGTGCTCAC	2100
Db	2041	CGTGGCCGGGCAAGTGTGCGAGGTTCGGCTTCGCGCGCCTACCACCGGACCTGGTGCTCAC	2100
Qy	2101	CCACTACGCCTGGTGAGCACGCGGACAGTCGAACCCGCCAACGCCAACGGCACTCAAGAC	2160
Db	2101	CCACTACGCCTGGTGAGCACGCGGACAGTCGAACCCGCCAACGCCAACGGCACTCAAGAC	2160
Qy	2161	GTGGCGTGCGCCGCGTCGGTCGTGAAGCTCTCCCCGAGCCGCACTCGGCGGTGGCATTG	2220
Db	2161	GTGGCGTGCGCCGCGTCGGTCGTGAAGCTCTCCCCGAGCCGCACTCGGCGGTGGCATTG	2220
Qy	2221	GGATTGCGGAACACGAAGGTCTCACCACAGCCCTGCTTGGCGAAGTCGATTTTCGGTGCCA	2280
Db	2221	GGATTGCGGAACACGAAGGTCTCACCACAGCCCTGCTTGGCGAAGTCGATTTTCGGTGCCA	2280
Qy	2281	TCGACCAACTGCAGACTGGCGGCATCGACATAAATCCGCACTCCGTCCTGCTCGAACACC	2340
Db	2281	TCGACCAACTGCAGACTGGCGGCATCGACATAAATCCGCACTCCGTCCTGCTCGAACACC	2340
Qy	2341	GCATCGTCCGCGCGTGCCTCGTGCGCCAGATCGGTGACATGGCCCCAACCGGAACAGCCT	2400
Db	2341	GCATCGTCCGCGCGTGCCTCGTGCGCCAGATCGGTGACATGGCCCCAACCGGAACAGCCT	2400
Qy	2401	GTGCGTACCACCCGAAACGTAGACCCAGCGCACCGGGAGTCTGGTCGAGGAAACGCTGC	2460
Db	2401	GTGCGTACCACCCGAAACGTAGACCCAGCGCACCGGGAGTCTGGTCGAGGAAACGCTGC	2460
Qy	2461	ACGCGTGCAAACGCGGCGGGGGTGAGGCGGATGGCCATGACGAACGACTCCAACGACTTG	2520
Db	2461	ACGCGTGCAAACGCGGCGGGGGTGAGGCGGATGGCCATGACGAACGACTCCAACGACTTG	2520
Qy	2521	CGATACGACATTATACGACCGATGCCCCGAACGCCTCGCAAGCGCTACGCTCCAGCCAGT	2580
Db	2521	CGATACGACATTATACGACCGATGCCCCGAACGCCTCGCAAGCGCTACGCTCCAGCCAGT	2580
Qv	2581	ACACTTGTTTCATTCCATATCGAGCCACTGCGGCGAGGATTCAAGTCATGACGGTGGTGAG	2640

Art Unit: 1652

Qy	2641	CGTTGAACATGCGCTGGCAGGGAAGATCCCGGTCGGCGGGCGAAGTGACCGTCCGCGGGCTG	2700
Db	2641	CGTTGAACATGCGCTGGCAGGGAAGATCCCGGTCGGCGGGCGAAGTGACCGTCCGCGGGCTG	2700
Qy	2701	GGTCCGTACCCGGCGCGACTCCAAAGCGGGGCTGTCTTCGTCAATGTACAGCGACGGTTC	2760
Db	2701	GGTCCGTACCCGGCGCGACTCCAAAGCGGGGCTGTCTTCGTCAATGTACAGCGACGGTTC	2760
Qy	2761	CTGCTTCGCGCCGATCCAGGTGGTGGCTCCGGCCGCGCTGCCCAACTACGAACCGGAAGT	2820
Db	2761	CTGCTTCGCGCCGATCCAGGTGGTGGCTCCGGCCGCGCTGCCCAACTACGAACCGGAAGT	2820
Qy	2821	GAAGCGCCTGACCGCCGGCTGCGCGGTGATCGCGCGGGGCACCTGGTTCGCCTCGCAAGG	2880
Db	2821	GAAGCGCCTGACCGCCGGCTGCGCGGTGATCGCGCGGGGCACCTGGTTCGCCTCGCAAGG	2880
Qy	2881	CCAGGGCCAAAGCTTCGAGATCCAGGCCGAGAGCATCGAGGTACTGGGCTGGGTCGAGGA	2940
Db	2881	CCAGGGCCAAAGCTTCGAGATCCAGGCCGAGAGCATCGAGGTACTGGGCTGGGTCGAGGA	2940
Qy	2941	CCCGGAGACCTACCCGATCCAACCCAAAGCGCATTCGCTCGAATTC	2986
Db	2941	CCCGGAGACCTACCCGATCCAACCCAAAGCGCATTCGCTCGAATTC	2986

11. No claims are presently allowable.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hope A. Robinson whose telephone number is 571-272-0957. The examiner can normally be reached on Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nashaat Nashed, can be reached at (571) 272-0934. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 1652

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/Hope A. Robinson/

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